variable region of SEQ ID NO.: 63 and comprises an HV:V79T substitution or a conservative substitution of threonine at HV:V79.

9. The isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **2**, wherein the heavy chain amino acid sequence is at least 75% identical to the heavy chain variable region of SEQ ID NO.: 64 and comprises an HV:R82V substitution or a conservative substitution of valine at HV:R82.

10. The isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **2**, wherein the heavy chain amino acid sequence is at least 75% identical to the heavy chain variable region of SEQ ID NO.: 65 and comprises an HV:L89F substitution or a conservative substitution of phenylalanine of HV:L89.

11. The isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **2**, wherein the heavy chain amino acid sequence is at least 75% identical to the heavy chain variable region of SEQ ID NO.: 66 and comprises an HV:T108R substitution or a conservative substitution of arginine at HV:T108.

12. The isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **3**, wherein the light chain amino acid sequence is at least 75% identical to the light chain variable region of SEQ ID NO.: 22 and comprises a LmdV:Y2P substitution or a conservative substitution of proline at LmdV:Y2, and wherein the heavy chain amino acid sequence is at least 75% identical to the heavy chain variable region of SEQ ID NO.: 69 and comprises:

an HV:R82V substitution or a conservative substitution of valine at HV:R82,

and an HV:T108R substitution or a conservative substitution of arginine at HV:T108.

13. The isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **3**, wherein the heavy chain amino acid sequence is at least 75% identical to the heavy chain variable region of SEQ ID NO.: 70 and comprises:

an HV:V79T substitution or a conservative substitution of threonine at HV:V79,

an HV:L89F substitution or a conservative substitution of phenylalanine at HV:L89, and

an HV:T108R substitution or a conservative substitution of arginine at HV:T108.

14. The isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **3**, wherein the light chain amino acid sequence is at least 75% identical to the light chain variable region of SEQ ID NO.: 24 and comprises a LmdV:Y2P substitution or a conservative substitution of proline at LmdV:Y2, and wherein the heavy chain amino acid sequence is at least 75% identical to the heavy chain variable region of SEQ ID NO.: 71 and comprises:

an HV:V79T substitution or a conservative substitution of threonine at HV:V79,

an HV:L89F substitution or a conservative substitution of phenylalanine at HV:L89, and

an HV:T108R substitution or a conservative substitution of arginine at HV:T108.

15. The isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **1**, comprising SEQ NO.: 3.

16. The isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **2**, comprising SEQ NO.: 63, 64, 65, 66, or 70.

17. The isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **3**, wherein the light chain variable region comprises the light variable region of SEQ NO.: 22 and the heavy chain variable region comprises the heavy variable region of SEQ No.: 69.

18. The isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **3**, wherein the light chain variable region comprises the light variable region of SEQ NO.: 24 and the heavy chain variable region comprises the heavy variable region of SEQ No.: 71.

19. A pharmaceutical composition comprising the isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **1**, and a pharmaceutically acceptable carrier or excipient.

20. The pharmaceutical composition further comprising a second therapeutic agent.

21. A nucleic acid, or a codon-optimized nucleic acid, encoding the isolated anti-HIV antibody, or antigen-binding portion thereof, of claim **1**.

22. A vector or vector system comprising at least one nucleic acid of claim **21**.

23. A cell comprising the nucleic acid of claim **21**.

24. A method of making recombinant anti-HIV antibody, or antigen-binding portion thereof, comprising:

a. obtaining the cell of claim **23**;

b. culturing the cell in a medium under conditions permitting expression of a polypeptide encoded by the vector and assembling of an antibody or fragment thereof, and

c. purifying the antibody or fragment from the cultured cell or the medium of the cell.

25. A method of preventing or treating an HIV infection or an HIV-related disease comprising the steps of:

a. identifying a patient in need of such prevention or treatment, and

b. administering to said patient a first therapeutic agent comprising a therapeutically effective amount of at least one anti-HIV antibody of claim **1**, or antigen-binding portion thereof.

26. The method of claim **25**, further comprising administering a second therapeutic agent.

27. The method of claim **26**, wherein the second therapeutic agent is administered before, concurrently with or after the administration of the anti-HIV antibody or antigen-binding portion thereof.

28. The method of claim **24** and the pharmaceutical composition of claim **20**, wherein the second therapeutic agent is an anti-HIV-1 broadly neutralizing antibody (bNAb).

29. The method of claim **26**, wherein the anti-HIV-1 broadly neutralizing antibody is 3BNC117.

30. A kit comprising a pharmaceutically acceptable dose unit of a pharmaceutically effective amount of at least one isolated anti-HIV antibody according to claim **1**, or antigen-binding portion thereof.

31. The kit of claim **30** further comprising a pharmaceutically acceptable dose unit of a pharmaceutically effective amount of an anti-HIV agent, wherein the two pharmaceutically acceptable dose units can optionally take the form of a single pharmaceutically acceptable dose unit.